

Supplemental Digital Content 4. Continuous outcomes, physical well-being

Study, Year, PMID, Country	Design	Overall RoB	Outcome Measurement	Time Point	Group	Subgroup	N	Mean (SD)	Effect Size (95% CI)	P Value
Tallroth, 2020, 33436336, Sweden	RCT	Moderate	BREAST-Q: Chest (0-100)	5.3 y	IBR	All	28	72.0 (21.5)	Ref	Ref
	RCT	Moderate	BREAST-Q: Chest (0-100)	5.3 y	AR	All	42	79.6 (21.1)	MD 7.6 (0.3, 14.9)	0.041
Eltahir, 2015, 25539295, Netherlands	NRCS	Moderate	BREAST-Q: Physical WB (0-100)	2.2 y	IBR	All	45	71.89 (15.06)	Ref	Ref
	NRCS	Moderate	BREAST-Q: Physical WB (0-100)	2.2 y	AR	All	47	77.13 (17.11)	adjMD -2.60 (-9.77, 4.57)	0.47
	NRCS	Moderate	SF-36: Physical function (0-100)	2.2 y	IBR	All	45	NR	Ref	Ref
	NRCS	Moderate	SF-36: Physical function (0-100)	2.2 y	AR	All	NR	NR	adjMD 2.13 (-4.20, 8.46)	0.51
Kouwenberg, 2020, 32590633, Netherlands	NRCS	Moderate	BREAST-Q: Chest (0-100)	>6 mo	IBR	All	296	72.6 (17.8)	Ref	Ref
	NRCS	Moderate	BREAST-Q: Chest (0-100)	>6 mo	AR	All	179	75.8 (15.4)	NR	<0.05
	NRCS	Moderate	EORTC QLQC30 (0-100)	>6 mo	IBR	All	296	88.0 (20.6)	Ref	Ref
	NRCS	Moderate	EORTC QLQC30 (0-100)	>6 mo	AR	All	179	85.6 (15.7)	NR	<0.05

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Kulkarni, 2017, 28713853, US & Canada	NRCS	Moderate	BREAST-Q: Chest (0-100)	1 y	IBR (all)	All	791	76.7 (14.5)	Ref	Ref
	NRCS	Moderate	BREAST-Q: Chest (0-100)	1 y	AR (all)	All	386	74.9 (15.1)	adjMD 1.60 (-0.57, 3.68)	0.003
	NRCS	Moderate	BREAST-Q: Chest (0-100)	2 y	IBR (all)	All	NR	NR	NR	NR
	NRCS	Moderate	BREAST-Q: Chest (0-100)	2 y	IBR (all)	Unilateral	600	77.2 (13.8)	NR	NR
	NRCS	Moderate	BREAST-Q: Chest (0-100)	2 y	IBR (all)	Bilateral	994	77.3 (14.6)	NR	NR
	NRCS	Moderate	BREAST-Q: Chest (0-100)	2 y	AR (all)	All	NR	NR	NR	NR
	NRCS	Moderate	BREAST-Q: Chest (0-100)	2 y	AR (all)	Unilateral	317	76.3 (15.4)	vs. IBR (Unilateral): adjMD 1.77 (-1.17, 4.71)*	0.24
	NRCS	Moderate	BREAST-Q: Chest (0-100)	2 y	AR (all)	Bilateral	224	74.5 (15.4)	vs. IBR (Bilateral): adjMD 0.57 (-1.40, 2.54)*	0.57
	NRCS	Moderate	BREAST-Q: Chest, upper body (0-100)	2 y	IBR (all)	All	1490	NR	NR	NR
Kulkarni, continued	NRCS	Moderate	BREAST-Q: Chest, upper body (0-100)	2 y	IBR DTI	All	93	NR	Ref	Ref
									vs. IBR (DTI): adjMD 0.92 (-2.82, 4.66)*	0.63

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	NRCS	Moderate	BREAST-Q: Chest, upper body (0-100)	2 y	AR (all)	All	1523	75.6 (15.4)	vs. IBR (all): adjMD 1.69 (0.13, 3.24)	NR
	NRCS	Moderate	BREAST-Q: Chest, upper body (0-100)	2 y	AR with DIEP	All	350	NR	vs. IBR (TE): adjMD -1.44 (-4.11, 1.23)*	0.29
	NRCS	Moderate	BREAST-Q: Chest, upper body (0-100)	2 y	AR with free TRAM	All	87	NR	vs. IBR (TE): adjMD -0.62 (-4.78, 3.54)*	0.77
	NRCS	Moderate	BREAST-Q: Chest, upper body (0-100)	2 y	AR with pedicled TRAM	All	77	NR	vs. IBR (TE): adjMD -3.93 (-8.15, 0.29)*	0.068
	NRCS	Moderate	PROMIS: Pain interference (0- 100)	2 y	IBR (all)	All	773	46 (7.5)	Ref	Ref
	NRCS	Moderate	PROMIS: Pain interference (0- 100)	2 y	AR (all)	All	384	48.4 (8.4)	adjMD 1.10 (0.01, 2.25)	0.048
	NRCS	Moderate	PROMIS: Physical function (0- 100)	1 y	IBR (all)	All	777	52.2 (6.8)	Ref	Ref
	NRCS	Moderate	PROMIS: Physical function (0- 100)	1 y	AR (all)	All	385	50.1 (7.2)	adjMD -0.60 (-1.51, 0.39)	0.25

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	NRCS	Moderate	PROMIS: Physical function (0- 100)	2 y	IBR (all)	All	NR	NR	NR	NR
	NRCS	Moderate	PROMIS: Physical function (0- 100)	2 y	IBR (all)	Unilateral	600	52.6 (6.5)	NR	NR
	NRCS	Moderate	PROMIS: Physical function (0- 100)	2 y	IBR (all)	Bilateral	994	52.8 (6.3)	NR	NR
	NRCS	Moderate	PROMIS: Physical function (0- 100)	2 y	AR (all)	All	NR	NR	NR	NR
	NRCS	Moderate	PROMIS: Physical function (0- 100)	2 y	AR (all)	Unilateral	317	51.3 (7.3)	vs. IBR (unilateral): adjMD -0.14 (-1.42, 1.14)*	0.83
	NRCS	Moderate	PROMIS: Physical function (0- 100)	2 y	AR (all)	Bilateral	214	49.8 (7.6)	vs. IBR (bilateral): adjMD -1.21 (-2.47, 0.05)*	0.06
McCarthy, 2014, 24201740, US	NRCS	Moderate	BREAST-Q: Physical WB (0-100)	1-5 y	IBR	All	141	76.5 (16)	Ref	Ref
	NRCS	Moderate	BREAST-Q: Physical WB (0-100)	1-5 y	AR	All	74	82.5 (15.3)	NR	<0.05

Abbreviations: adj = adjusted, CI = confidence interval, DIEP = deep inferior epigastric perforator, DTI = direct to implant, EORTC = European Organization for Research and Treatment of Cancer , MD = mean difference, mo = months, NMD = net mean difference, NR = not reported, NRCS = nonrandomized comparative study, PMID = PubMed identifier, PROMIS: Patient Reported Outcomes Measurement Information System, RCT = randomized controlled trial, Ref = reference group, RoB = risk of bias, SD = standard deviation, WB = well-being, y = years.

* Confidence interval calculated based on the reported P value.